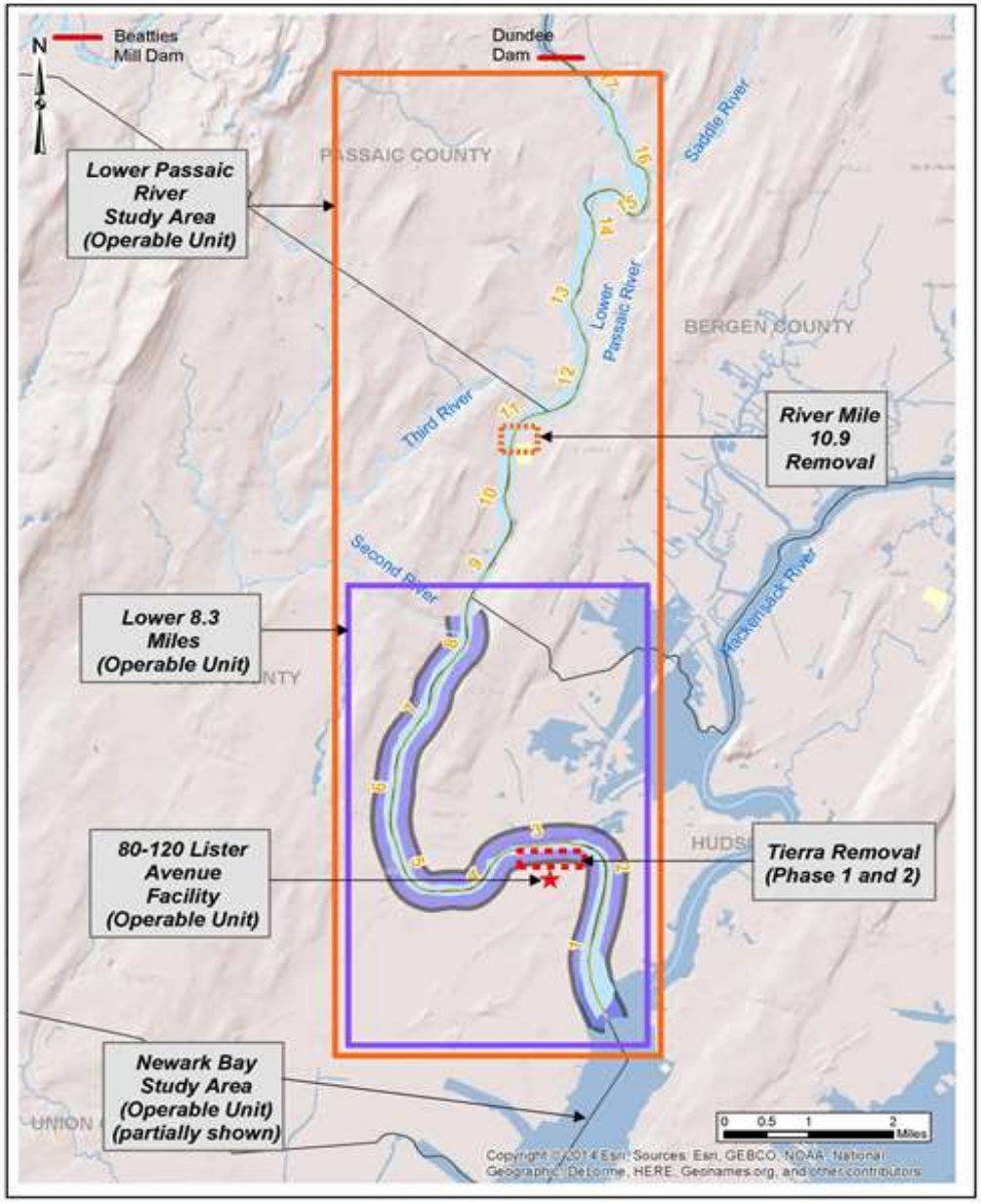
FS1

gion 2 serving the people of New Jersey,
New York, Puerto Rico and the U.S. Virgin Islands



Diamond Alkali Superfund Site

Lower Passaic River Study Area

Upper 9 Miles

March 8, 2018

623315

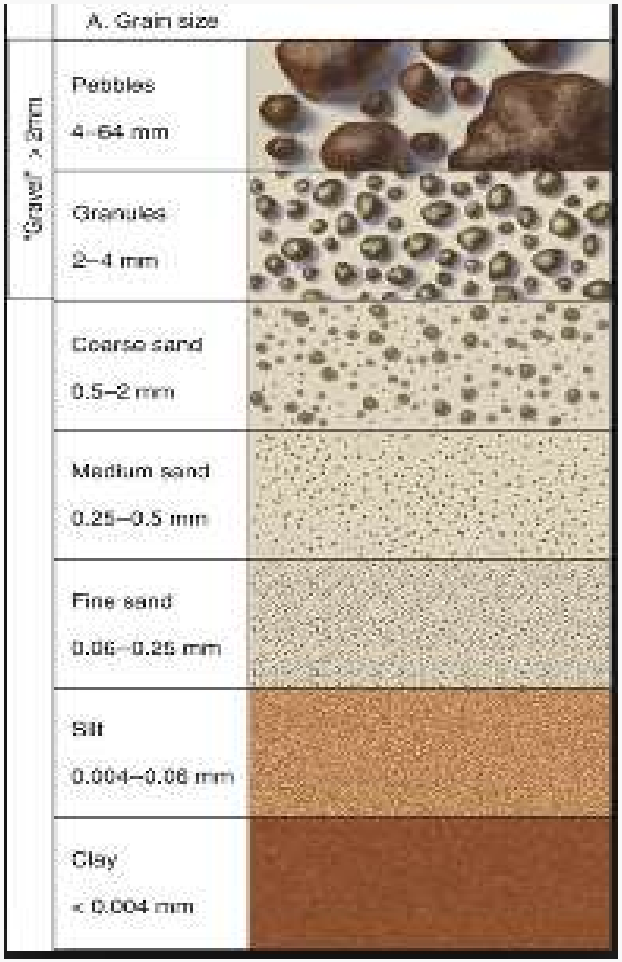
Slide 1

FS1 Add "Diamond Alkali Superfund Site" before Lower Passaic River - since what is depicted is the whole site.
Flanagan, Sarah, 3/5/2018

CAG Feedback/Questions

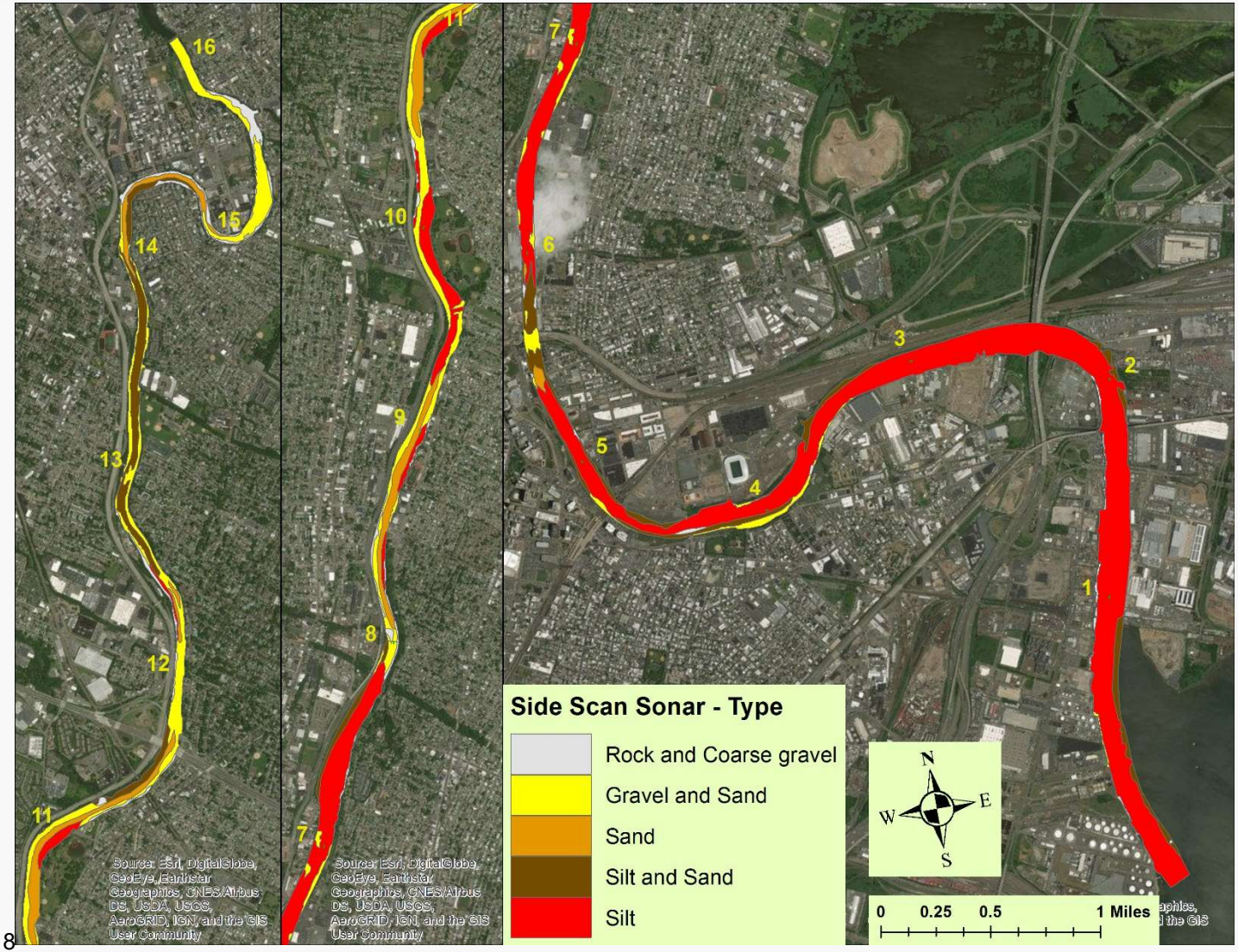
- What is the difference between the Lower 8.3 miles and the Upper 9 miles?
- What does the River look like?
- What does the RI data show?

Sediment sizes



Large-Grained Sediment

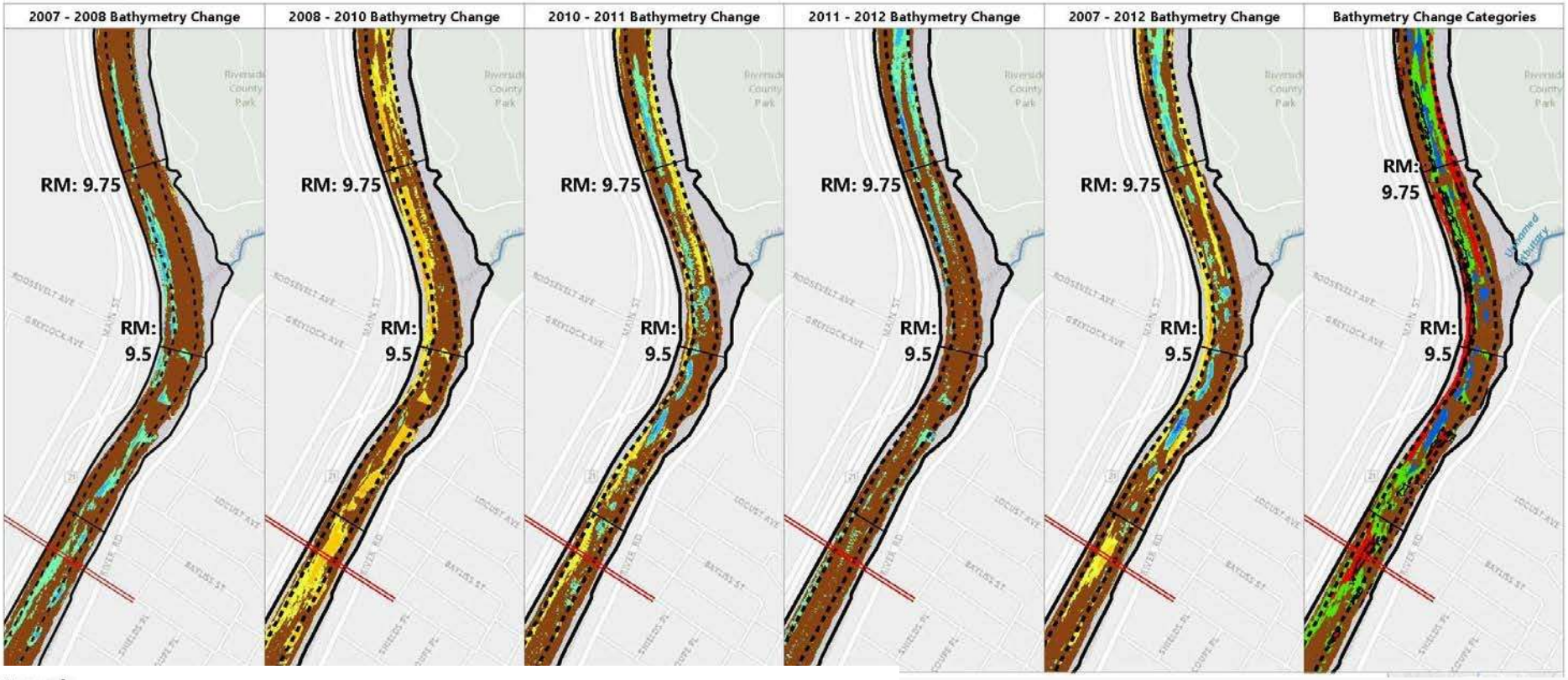
Fine-Grained Sediment


16
15
14
13
12
11
11
10
9
8
7
7
6
5
4
3
2
1
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Side Scan Sonar - Type
Rock and Coarse gravel
Gravel and Sand
Sand
Silt and Sand
Silt
N
W
E
S
0
0.25
0.5
1 Miles

RI Field Investigations Included:

- Bathymetry Surveys – Depth of water over time that shows where sediment is likely to erode and deposit
- Water Column Sampling
- Sediment Sampling
- Biological Sampling

Bathymetry – Shows Areas of Erosion and Deposition



Legend:

- Subreach Boundary
- Navigational Channel
- Shoreline

Bathymetry Change (feet)

>5	-1 - -0.5
2 - 5	-2 - -1
1 - 2	-5 - -2
0.5 - 1	<-5
-0.5 - 0.5	

Bathymetric Change Categories

- Depositional from 2007 to 2012
- No Change / Temporarily Depositional
- Erosion and Deposition
- Erosional from 2007 to 2012
- > 1.5 feet of Erosion

NOTE(S):
Positive bathymetry change indicates deposition denoted in blue.
Negative numbers indicate erosion denoted in red.
Shoal bathymetry derived from single beam data for 2007, 2011 and 2012.

Source: LPRSA Draft RI Report, 12/17 (Anchor QEA, in preparation

Water Column Sampling

2,3,7,8-TCDD (pg/L)	Number of Samples	Near Surface			Number of Samples	Near Bottom		
		Max	Min	Mean		Max	Min	Mean
Lower 8 miles	95	1,870	0.62	24.4	95	1,830	0.82	29.1
Upper 9 miles	26	53.7	0.9	7.11	25	81.3	0.91	10.4

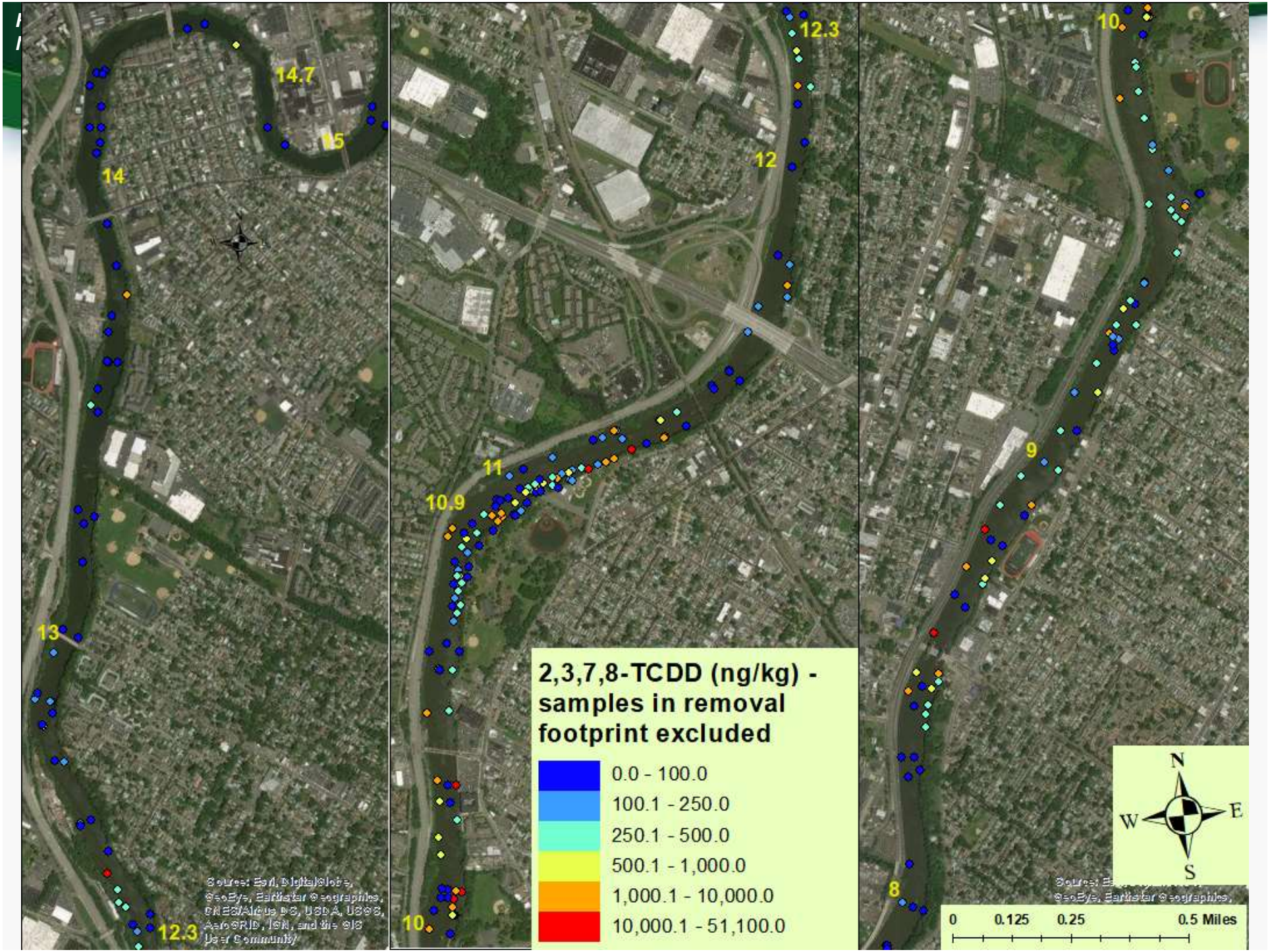
PCBs (ng/L)	Number of Samples	Near Surface			Number of Samples	Near Bottom		
		Max	Min	Mean		Max	Min	Mean
Lower 8 miles	95	65.1	4.55	17.2	95	102	4.85	26.6
Upper 9 miles	26	55.5	1.96	16.1	25	183	2.05	24.3

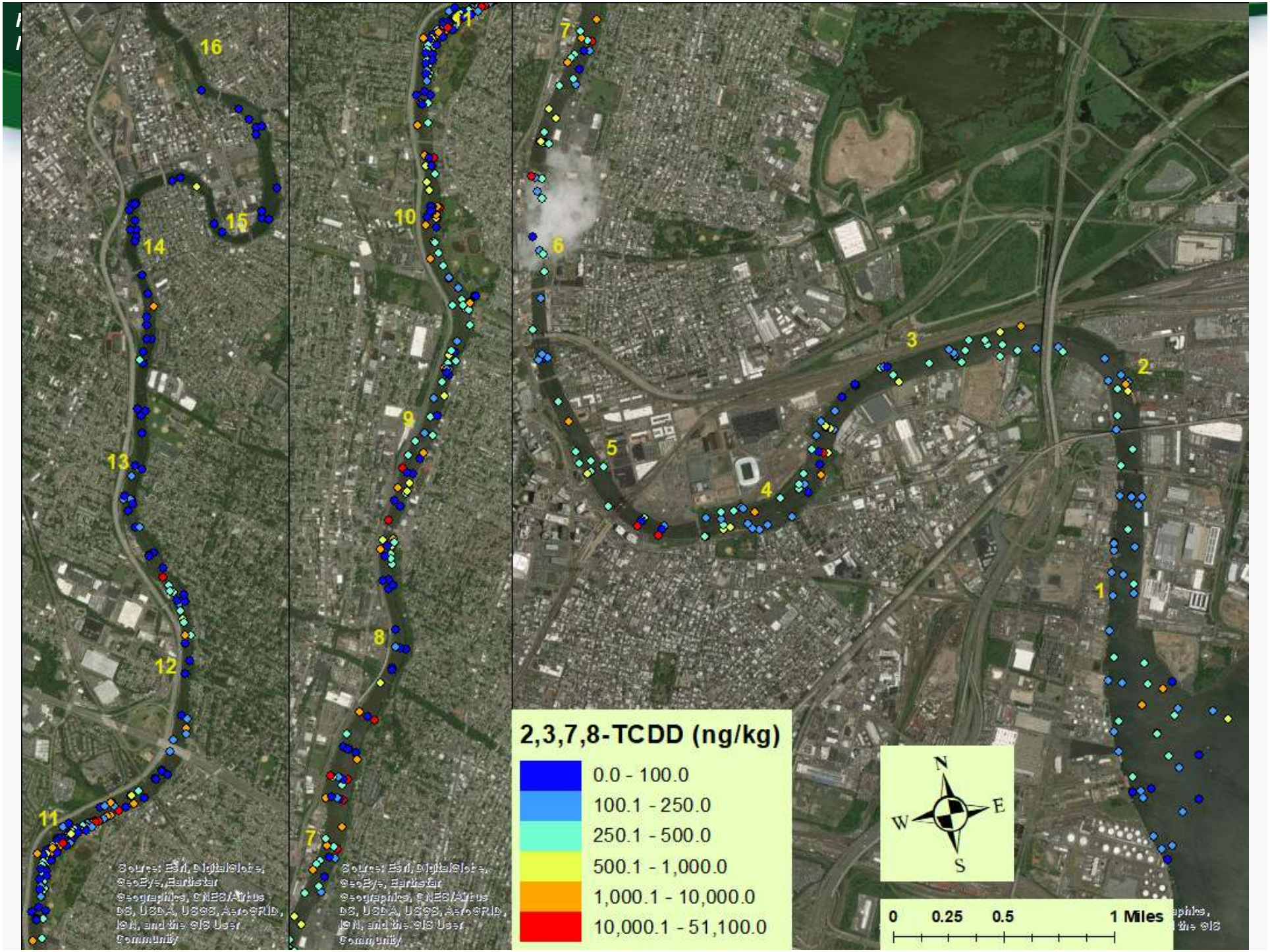
Sediment Sampling

2,3,7,8-TCDD (ng/kg)	Number of Samples	All Depths		Number of Samples	Surface (0 to 6 in)		
		Max	Min		Max	Min	Mean
Lower 8 miles	823 (822)	237,760 (237,760)	0.021 (0.021)	234 (233)	34,100 (34,100)	0.4 (0.4)	1,195 (1,196)
Upper 9 miles	575 (567)	57,176 (51,100)	0.007 (0.007)	217 (213)	51,100 (51,100)	0.4 (0.4)	1,370 (1,326)

Total PCBs (mg/kg)	Number of Samples	All Depths		Number of Samples	Surface (0 to 6 in)		
		Max	Min		Max	Min	Mean
Lower 8 miles	836 (835)	133 (133)	0 (0)	234 (233)	29 (29)	0.005 (0.005)	1.8 (1.8)
Upper 9 miles	535 (527)	34 (34)	0 (0)	198 (195)	25 (25)	0.006 (0.006)	2.0 (2.0)

Results in parentheses exclude data in removal footprints (RM 10.9 & Tierra Phase I)


14.7
15
14
13
12.3
12.3
12
11
10.9
10
10
9
8
2,3,7,8-TCDD (ng/kg) - samples in removal footprint excluded
0.0 - 100.0
100.1 - 250.0
250.1 - 500.0
500.1 - 1,000.0
1,000.1 - 10,000.0
10,000.1 - 51,100.0
N
W
E
S
0
0.125
0.25
0.5 Miles


2,3,7,8-TCDD (ng/kg)
0.0 - 100.0
100.1 - 250.0
250.1 - 500.0
500.1 - 1,000.0
1,000.1 - 10,000.0
10,000.1 - 51,100.0
N
W
E
S
0
0.25
0.5
1 Miles
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Biological Sampling

2,3,7,8-TCDD (pg/g)	Number of Samples	Fish Tissue (whole body)			Number of Samples	Crab Tissue (whole body)		
		Max	Min	Mean		Max	Min	Mean
Lower 8 miles	39	560	4.7	60.2	22	110	24	61.6
Upper 9 miles	66	730	0.31	54.1	19	71	4	34.8

Total PCBs (mg/kg)	Number of Samples	Fish Tissue (whole body)			Number of Samples	Crab Tissue (whole body)		
		Max	Min	Mean		Max	Min	Mean
Lower 8 miles	39	6.0	0.14	1.33	22	0.77	0.13	0.38
Upper 9 miles	66	14.8	0.05	1.18	19	0.41	0.08	0.27